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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/726,928	11/30/2000	Link C. Jaw	153207.90019	2084

7590 03/29/2004
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EXAMINER

CHARIOUI, MOHAMED

ART UNIT	PAPER NUMBER
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2857

DATE MAILED: 03/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/726,928

Applicant(s)

JAW ET AL.

Examiner

Mohamed Charioui

Art Unit

2857

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11/30/2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-16 is/are allowed.
- 6) ☒ Claim(s) 17-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 October 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

1. According to USPTO records, it is acknowledged that this application claims benefit of the provisional application 60/210,954 which was filed 06/12/2000.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 17-22 are rejected under 35 U.S.C. 102(e) as being anticipated by Larkin et al. (US 6,073,262).

As per claim 17, Larkin et al. teach a computer system coupled for receiving a plurality of measured variables from the physical system corresponding to conditions of the physical system (see col. 2, line 65 to col. 3, line 17 and col. 4, line 50 to col. 5, line 13), wherein the computer system performs fault detection by determining estimated system operating conditions for the physical system using a hardware redundant subset of the plurality of measured variables (see col. 6, line 48 to col. 7, line 35).

As per claims 18-20, Larkin et al. further teach that the computer system performs fault detection by determining estimated system operating conditions for the

Art Unit: 2857

physical system using substantially only a hardware redundant subset of the plurality of measured variables (see col. 10, line 61 to col. 11, line 40).

As per claim 21, Larkin et al. further teach a control system coupled to control the physical system and having an input coupled to the computer system, wherein the control system provides a control signal to the physical system in response to a fault signal received from the computer system (see col. 3, lines 26-41 and col. 10, line 61 to col. 11, line 40).

As per claim 22, Larkin et al. further teach obtaining a hardware redundant measurement for each of a plurality of variables corresponding to the operational state of the system (see col. 6, lines 33-47); and using a model to calculate expected system dependent variables (see col. 6, line 48-64), using the plurality of variables as a set of independent variables in the model, to detect the fault (see col. 10, line 61 to col. 11, line 40).

Allowable Subject Matter

3. **Claims 1-16** are allowed.

The following is a statement of reasons for the indication of allowable subject matter: none of the prior art of record teaches or suggests ranking the variables by the reliability of the measurement for each of the plurality of variables to provide a ranked list of the variables; selecting a first subset of the most reliable variables from the ranked list to provide a set of independent variables, in combination with the rest of the claim limitations.

Prior art

4. The prior art made record and not relied upon is considered pertinent to applicant's disclosure:

Scott ['011] discloses efficient fuzzy logic fault accommodation algorithm.

Kemper et al. ['479] disclose diagnostic apparatus.

Wang et al. ['092] disclose machine fault diagnostics system and method.

Golzer et al. ['782] disclose arrangement for controlling the drive power of motor vehicle.

Contact information

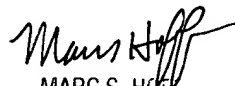
5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mohamed Charioui whose telephone number is (571) 272-2213. The examiner can normally be reached on 9-6 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S Hoff can be reached on (571) 272-2216. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mohamed Charioui

3/12/04


MARC S. HOFF
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER